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10/559,668	12/06/2005	Mikael Svedman	032221-066	7193
21839 7590 01/08/2009 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER CALANDRA, ANTHONY J	
			ART UNIT 1791	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/559,668	<b>Applicant(s)</b> SVEDMAN ET AL.	
	<b>Examiner</b> ANTHONY J. CALANDRA	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,7 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7, 13-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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***Detailed Office Action***

1. The communication dated 9/22/2008 has been entered and fully considered.
2. Claims 1, 3, 4, and 6 are amended, claims 2, 5 and 8-12 are canceled and new claims 13-21 are offered for consideration. Claims 1, 3, 4, 6, 7, and 13-21 are currently pending.

***Response to Arguments***

3. Formalities

Examiner notes that applicant used an improper claim identifier for claim 1. The claim identifier should recite - currently amended -.

4. Double Patenting

*Applicant canceled the previous apparatus claims and submitted new apparatus claims 13-21.*

*In said claims a new limitation is added 'an adjustment stop in an upper part of the longitudinal vessel at or adjacent to the first end thereof'. Applicant argues that the claims of the copending application fail to teach this limitation.*

Applicant's arguments see pg. 1 last paragraph, filed 9/22/2008, with respect to the rejection(s) of claim(s) 8-11 (now canceled) under provisional obvious type double patenting have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent 4,635,379 KRONELD, hereinafter KRONELD.

While the copending claims do not teach an adjustment stop, KRONELD teaches an apparatus with an upright vessel and a connected longitudinal vessel with a conveyor for

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steaming bark and other forestry materials [column 1 lines 5-9 and Figure 1]. KRONELD discloses that the apparatus has a damper device at the start of the bed [claim 4, and column 2 lines 45-48]. The examiner has interpreted the adjustable damper as the 'adjustment stop'. Further, it is shown in Figure 1 of KRONFELD that the damper imparts to the moving bed the same gas space above the bed. At the time of the invention it would have been obvious to use the adjustable damper in the apparatus of the copending claims. A person of ordinary skill in the art would be motivated to do so as to have the ability to adjust the height of the lignocellulose bed. KRONFELD suggests that too high of a steam flow carries large wood particles with the steam exiting the longitudinal steaming chamber [column 2 lines 20-25]. At a constant speed of the conveyor belt, a larger thickness of lignocellulose will necessarily require greater amounts of steam to provide the same heating level. For larger amounts of steam, the velocity of steam leaving the vessel will necessarily be higher. Therefore, a person of ordinary skill in the art would be motivated to prevent excess particles from exiting with the steam (and clogging upstream equipment) by adjusting the bed height using an adjustable damper (adjustment stop).

5. 35 USC 103 Rejections

*Applicant amended the method instant claim 1 to add the limitation 'sealing a gas space of the heated lignocellulose material in the horizontal gas removal section, thereby adjusting the height and form of the top of the composed bed'. In the newly submitted apparatus claim 13, applicant added the limitation 'an adjustment stop in an upper part of the longitudinal vessel at or adjacent to the first end thereof' which carries out the method claim limitation of sealing in gas and adjusting the horizontal bed. Applicant argues that all of the applied references fail to teach this newly entered limitation.*

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Applicant's arguments see pg. 1 last paragraph, filed 9/22/2008, with respect to the rejection(s) of claim(s) 1, 3, 4, 6, 7, and 13-21 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent 4,635,379 KRONELD, hereinafter KRONELD.

Applicant added the additional claim limitations of a sealed bed and the apparatus device that carries out said bed sealing, an adjustment stop located at the first end of the longitudinal vessel. The applied art currently does not teach said adjustment stop and the formed sealed bed/steam space. KRONELD teaches an apparatus with an upright vessel and a connected longitudinal vessel with a conveyor for steaming bark and other forestry materials [column 1 lines 5-9 and Figure 1]. KRONELD discloses that the apparatus has a damper device at the start of the bed [claim 4, and column 2 lines 45-48]. At the time of the invention it would have been obvious to use the adjustable damper of KRONFELD. A person of ordinary skill in the art would be motivated to do so as to have the ability to adjust the height of the lignocellulose bed. KRONFELD suggests that too high of a steam flow carries large wood particles with the steam exiting the longitudinal steaming chamber [column 2 lines 20-25]. At a constant speed of the conveyor belt, a larger thickness of lignocellulose will necessarily require greater amounts of steam to provide the same heating level. For larger amounts of steam, the velocity of steam leaving the vessel will necessarily be higher. Therefore, a person of ordinary skill in the art would be motivated to prevent excess particles from exiting with the steam (and clogging upstream equipment) by adjusting the bed height using an adjustable damper (adjustment stop).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 13, 15-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 15, 16, of copending Application No.

11/267833 in view of U.S. Patent 4,635,379 KRONELD, hereinafter KRONELD.

This is a provisional obviousness-type double patenting rejection.

Claim 13, and 15-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 15-17, 19, 20, 28-33, of copending Application No.. Although the conflicting claims are not identical, they are not patentably distinct from each other because while both sets of claims teach a different intended use for the apparatus, it is the features of the apparatus itself that define patentability.

As for instant claims 13 and 16, the copending application claims a heating section before the drying section which the examiner has interpreted as a silo with an upper, middle, and

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lower part wherein (copending claims 15, 16, 17, 19 and 20). A drying section equipped with a conveyor which the examiner has interpreted as the conveying means with a longitudinal lamella (copending claim 15, 16, 17, 19 and 20). The copending claim states before the drying section there is means for heating where the fluid flows downward which the examiner has interpreted as the intermediate part of the silo furnished with means for supplying fluid having an elevated temperature transversely (copending claim 15, 16, 17, 19 and 20). The copending claims do not disclose an adjustment stop, however the copending claims disclose a gas space (copending claim 28). A gas space requires some means to be formed. KRONFELD discloses that the apparatus has a damper device at the start of the bed [claim 4, and column 2 lines 45-48]. The examiner has interpreted the adjustable damper as the 'adjustment stop'. Further, it is shown in Figure 1 of KRONFELD that the damper imparts to the moving bed the same gas space above the bed. At the time of the invention it would have been obvious to use the adjustable damper in the apparatus of the copending claims. A person of ordinary skill in the art would be motivated to do so as to have the ability to adjust the height of the lignocellulose bed. KRONFELD suggests that too high of a steam flow carries large wood particles with the steam exiting the longitudinal steaming chamber [column 2 lines 20-25]. At a constant speed of the conveyor belt a larger thickness of lignocellulose will necessarily require greater amounts of steam to provide the same heating level. For larger amounts of steam, the velocity of steam leaving the vessel will necessarily be higher. Therefore, a person of ordinary skill in the art would be motivated to prevent excess particles from exiting with the steam (and clogging upstream equipment) by adjusting the bed height using an adjustable damper (adjustment stop).

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Instant claim 15, the copending claims does not state that the conveyor is tubular but there are a limited number of shapes that can be used (tubular, 4 sided straight walled) and therefore it would be *prima facie* obvious to try a different shape. A person of ordinary skill in the art would expect success from a rectangular or a circular vessel.

Instant claim 17, the copending claims do not disclose the length of the longitudinal vessel compared to the diameter. However, a person of ordinary skill in the art would optimize the diameter vs. the length of a conveyor as to optimize cost versus the amount of material that can be conveyed by said conveyor. Additionally KRONFELD discloses a conveyor with a length that is greater than the cross sectional area [Figure 1].

Instant claim 18-20 see copending claims 30-33. The examiner has interpreted the screen of the copending claims as a 'sieve'.

Instant claim 21 see copending claim 29.

This is a provisional obviousness-type double patenting rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Patent # 4,592,804 NOREUS et al., hereinafter NOREUS in view of U.S. Patent #

5,547,546 PROUGH et al., hereinafter PROUGH, U.S. Patent 4,635,379 KRONELD, hereinafter



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KRONELD and *Studies on Liquid Penetration into softwood chips –experiments, models and applications* by MALKOV.

As for claims 1 and 3, NOREUS disclose a method for removing gases from lignocellulosic material [abstract], NOREUS discloses a gravimetric column (1) which can be heated from the bottom (6) and (7) and/or around the sides of the column (*heating the comminuted lignocellulose material as a gravitationally lowering column by supplying steam transverse to the movement of the column* [column 4 lines 1-12 and Figure 1]). The material is heated also by steam (2) and (8) where the material advances longitudinal bed (3) (*maintaining the temperature of the composed bed in the horizontal gas removal section at approximately the temperature reached in step b by introducing steam beneath the composed bed* [Figure 1 and column 3 lines 50-55]).

NOREUS explicitly discloses that the steaming process is for removing air from the chips by means of steaming [abstract, claim 1]. NOREUS discloses that the steaming removes the air from the chips but does not disclose how the air is removed from the material bed. PROUGH discloses a common chip bin and steaming vessel arrangement in which it shows that vent air can be separated from both the chip bin (25) and the material bed steaming vessel (14) and sent to a condenser and then to an incinerator (*removing gas from above the .gravitationally lowering column, from the gas space above the top of the composed bed, or both* [Figure 1]). At the time of the invention it would have been obvious to a person of ordinary skill in the art remove the air of NOREUS from the material bed in the common and well know method of PROUGH. It is *prima facie* obvious to use a known technique to improve similar device in the same way. In the

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instant case it would be expected that the material bed of NOREUS would be improved by showing how the air can be removed during steaming.

Neither, NOREUS nor PROUGH disclose a sealing gas space. NOREUS does show a gas space in the horizontal column [Figure 1], however, NOREUS does not show that said space is sealed or that said space is adjustable. KRONELD teaches an apparatus with an upright vessel and a connected longitudinal vessel with a conveyor for steaming bark and other forestry materials [column 1 lines 5-9 and Figure 1]. KRONELD discloses that the apparatus has a damper device at the start of the bed [claim 4, and column 2 lines 45-48]. At the time of the invention it would have been obvious to use the adjustable damper of KRONFELD in the longitudinal vessel of NOREUS with the air removal system of PROUGH. A person of ordinary skill in the art would be motivated to do so as to have the ability to adjust the height of the lignocellulose bed. KRONFELD suggests that too high of a steam flow carries large wood particles with the steam exiting the longitudinal steaming chamber [column 2 lines 20-25]. At a constant speed of the conveyor belt, a larger thickness of lignocellulose will necessarily require greater amounts of steam to provide the same heating level. For larger amounts of steam, the velocity of steam leaving the vessel will necessarily be higher. Therefore, a person of ordinary skill in the art would be motivated to prevent excess particles from exiting with the steam (and clogging upstream equipment) by adjusting the bed height using an adjustable damper (adjustment stop).

NOREUS does not disclose the temperature of the steaming required to remove the air from the chips or the amount of time required to achieve fully remove air from the chips *(maintaining the heating so that a temperature of 80°C to 160° is reached in the column;*

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*introducing the column of the heated lignocellulose material to a horizontal gas removal section and advancing the heated lignocellulose material as a composed bed through the horizontal gas removal section within a time period ranging from 10 to 65 minutes).* MALKOV discloses that at a temperature of 105 degrees C and a time of 60 minutes of steaming a chip can be fully penetrated with water and at a quicker time [Figures 24] which suggests that air has been removed from the chips [section 5.3] and that 60 minutes of steaming time removes virtually all of the air [Figure 25]. At the time of the invention it would have been obvious to a person of ordinary skill in the art to optimize the preheating temperature and time to obtain a full air removal from the chips which has been shown to improves liquid penetration and therefore look towards MALKOV for guidance of typical temperatures and times. Further, it is *prima facie* obvious to use a known technique to improve similar devices in the same way. In the instant case it would have been expected that a temperature of 105 degrees C and a time of 60 minutes would remove the air from the chips.

As for claim 4, MALKOV discloses that chips can be fully heated to a degasification temperature of 100 degrees within 150 seconds [Figure 23].

As for claim 6, NOREUS discloses condensate outlet (12) for separating out condensate from the chips.

As for claim 7, MALKOV discloses that at a temperature of 105 degrees C and a time of 60 minutes must be used to obtain full removal of the gases. The existence of condensate removal in NOREUS implies that the steam is saturated (superheated steam would not form condensate) and as such the pressure of the steam corresponds to the temperature of the steam.

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7. Claims 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent # 4,592,804 NOREUS et al., hereinafter NOREUS in view of U.S. Patent 4,635,379 KRONELD, hereinafter KRONELD, U.S. Patent 5,063,981 JONKKA, hereinafter JONKKA and further in view of U.S. Patent 4,746,404 LAAKSO, hereinafter LAAKSO.

As for claims 13 and 18, NOREUS discloses an upright vessel with has an upper section to receive chips, and a lower section which receives heated chips from an intermediate section (*an upright vessel comprising: an upper part, having means for feeding the material to be treated into the apparatus, a lower part, which can receive a heated, gravitationally lowering column of material to be treated from the intermediate part* [column 3 lines 15-20]). The chips can also be heated by steam along the sides of the silo which the examiner has interpreted as encompassing the middle of the silo (*an intermediate part, having means for supplying steam transverse to the direction of movement of the material to be treated* [column 4 lines 5-8]).

The chips of NOREUS can be steamed from the bottom of the silo and can also be heated by steam along the sides of the silo which the examiner has interpreted as encompassing the middle of the silo [column 4 lines 5-8]. Additionally, the applicant defines the means for supplying steam as a central tube within the vessel. NOREUS does not teach this central tube. LAAKSO discloses a steaming vessel with a central steaming pipe [Figure 1 and column 2 lines 45-50]. LAAKSO also teaches that the steam supply on the outside of a chip bin is supplied by numerous equally spaced nozzles [column 3 lines 40-45]. LAAKSO states they are adjacent to the bottom portion of the vessel. The section that is adjacent to the bottom portion of the vessel is the intermediate section. LAAKSO further states that the nozzles on the periphery are supplied by such that steam enters each of the radial supply nozzles [column 4 lines 1-10].

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At the time of the invention it would have been *prima facie* obvious to combine the internal steam tube of LAAKSO with the external steaming of NOREUS. It is *prima facie* obvious to apply a known technique such as the steam treatment of LAAKSO to a known device such as NOREUS ready for improvement to yield predictable results. A person of ordinary skill in the art would expect more uniform steaming by steaming the chips from the inside → outside and from the outside → inside. Additionally, LAAKSO gives a specific motivation to use an internal steam header stating that “*By introducing steam in such a manner, uniform treatment ensues since steam from any nozzle or pipe need only penetrate a distance of one-half the radius of the vessel, and since the steam introduction is sequentially moved around the circumference of the vessel 10 from nozzle-to-nozzle and pipe-to-pipe, uniformity is further ensured*”.

The upright vessel lower section is connected to a longitudinal vessel which receives the lignocellulose from the upright vessel (*a longitudinal vessel positioned horizontally or slightly downwards inclined with respect to the upright vessel, and comprising, a first end connected to the lower part of the upright vessel to receive a composed bed of material to be treated from the lower part of the upright vessel [column 3 lines 24-35]*). After being transported horizontally the lignocellulose exits the longitudinal vessel (*a second end having an outlet for removing treated material from the apparatus [Figure 1]*).

NOREUS moves the material longitudinally with stoking means [column 3 lines 24-26]. JONKKA discloses a method for moving material horizontally wherein the material is conveyed on parallel transfer elements moving back and forth in the transfer direction (*a conveying means for transporting the material to be treated along the length of the longitudinal vessel from the first end to the second end, and comprising separate parallel lamellae disposed in a lower part*

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*of the longitudinal vessel and extending essentially over the length thereof, wherein each lamella is movable in the longitudinal direction [abstract]).* At the time of the invention it would have been *prima facie* obvious to substitute the stoker conveyance element of NOREUS with the parallel transfer element of JONKKA. It is *prima facie* obvious to substitute one known element for another to obtain predictable results. In the instant case it would be expected that the parallel transfer elements of JONKKA would serve to move the chips across the vessel of NOREUS.

NOREUS does not disclose a sealing gas space. NOREUS does show a gas space in the horizontal column [Figure 1], however, NOREUS does not show that said space is sealed or that said space is adjustable. KRONELD teaches an apparatus with an upright vessel and a connected longitudinal vessel with a conveyor for steaming bark and other forestry materials [column 1 lines 5-9 and Figure 1]. KRONELD discloses that the apparatus has a damper device at the start of the bed [claim 4, and column 2 lines 45-48]. At the time of the invention it would have been obvious to use the adjustable damper of KRONFELD in the longitudinal vessel of NOREUS. A person of ordinary skill in the art would be motivated to do so as to have the ability to adjust the height of the lignocellulose bed. KRONFELD suggests that too high of a steam flow carries large wood particles with the steam exiting the longitudinal steaming chamber [column 2 lines 20-25]. At a constant speed of the conveyor belt, a larger thickness of lignocellulose will necessarily require greater amounts of steam to provide the same heating level. For larger amounts of steam, the velocity of steam leaving the vessel will necessarily be higher. Therefore, a person of ordinary skill in the art would be motivated to prevent excess particles from exiting with the steam (and clogging upstream equipment) by adjusting the bed height using an adjustable damper (adjustment stop).

As for claim 14, NOREUS discloses that the apparatus has an outlet for removing condensate (12) [Figure 1]. NOREUS discloses multiple steaming inlets along the bottom of the longitudinal vessel. NOREUS explicitly discloses that the steaming process is for removing air from the chips by means of steaming [abstract, claim 1]. NOREUS discloses that the steaming removes the air from the chips but does not disclose how the air is removed from the material bed in the disclosed apparatus. LAAKSO discloses a common chip bin and steaming vessel arrangement in which it shows that vent air can be separated from both the chip bin (42) and the material bed steaming vessel (80) and sent to a condenser and then an incinerator [Figure 1]. At the time of the invention it would have been obvious to a person of ordinary skill in the art remove the air of NOREUS from the material bed in the common and well know apparatus of LAAKSO. It is *prima facie* obvious to use a known technique to improve similar device in the same way. In the instant case it would be expected that the material bed of NOREUS would improved by showing an apparatus for how the air can be removed during steaming.

As for claim 15, NOREUS discloses that the longitudinal vessel is rectangular [column 3 lines 24-36]. Examiner has given the word tubular the definition of a hollow cylinder. There are a finite amount of shapes to choose from. Therefore, at the time of the invention it would have been *prima facie* obvious to try a circular vessel. A person of ordinary skill in the art would expect success from a rectangular as well as a tubular vessel. Further, such tubular vessels are well known in the pulping art such as the screw based steaming vessels [column 1 lines 45-47].

As for claim 16, NOREUS discloses a silo [column 4 lines 5 and 6].

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As for claim 17, both NOREUS and KRONELD show that the length of the longitudinal vessel is larger than the cross sectional dimension thereof [NOREUS and KRONFELD Figure 1].

As for claim 19, LAAKSO states that the central steaming pipe is “*Disposed within the conduit 29 are a plurality of uniformly radially spaced steam introduction pipes 31-38, each having an orifice (such as an opening in a side wall thereof corresponding to a like opening in conduit 29) disposed at generally the same vertical level as the nozzles 17 through 28*”.

Examiner has interpreted the multiple supply orifices as a sieve [Figure 1 and Figure 3 and column 3 lines 55-65].

As for claim 20, NOREUS states that steam is supplied around the side (periphery) of the chip bin. LAAKSO teaches that the steam supply on the outside of a chip bin is supplied by numerous equally spaced nozzles [column 3 lines 40-45]. LAAKSO states they are adjacent to the bottom portion of the vessel. The section that is adjacent to the bottom portion of the vessel is the intermediate section. LAAKSO further states that the nozzles on the periphery are supplied by such that steam enters each of the radial supply nozzles [column 4 lines 1-10].

As for claim 21, NOREUS teach a rectangular chip silo, which has equal dimensions at the top and the bottom. Both LAAKSO and KRONFELD teach alternate silo types where the vessel expands outwards in the downward direction [Figure 1 both Publications]. NOREUS additionally states that other shapes may be substituted [column 3 lines 19-21]. At the time of the invention it would have been *prima facie* obvious to substitute the known enlarging vessel of either LAAKSO or KRONFELD for the known rectangular vessel of NOREUS. A person of



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ordinary skill in the art would expect both vessel types to allow chips to flow downwards by gravity to a horizontal vessel.

*Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Halpern/  
Primary Examiner  
Art Unit 1791

/AJC/